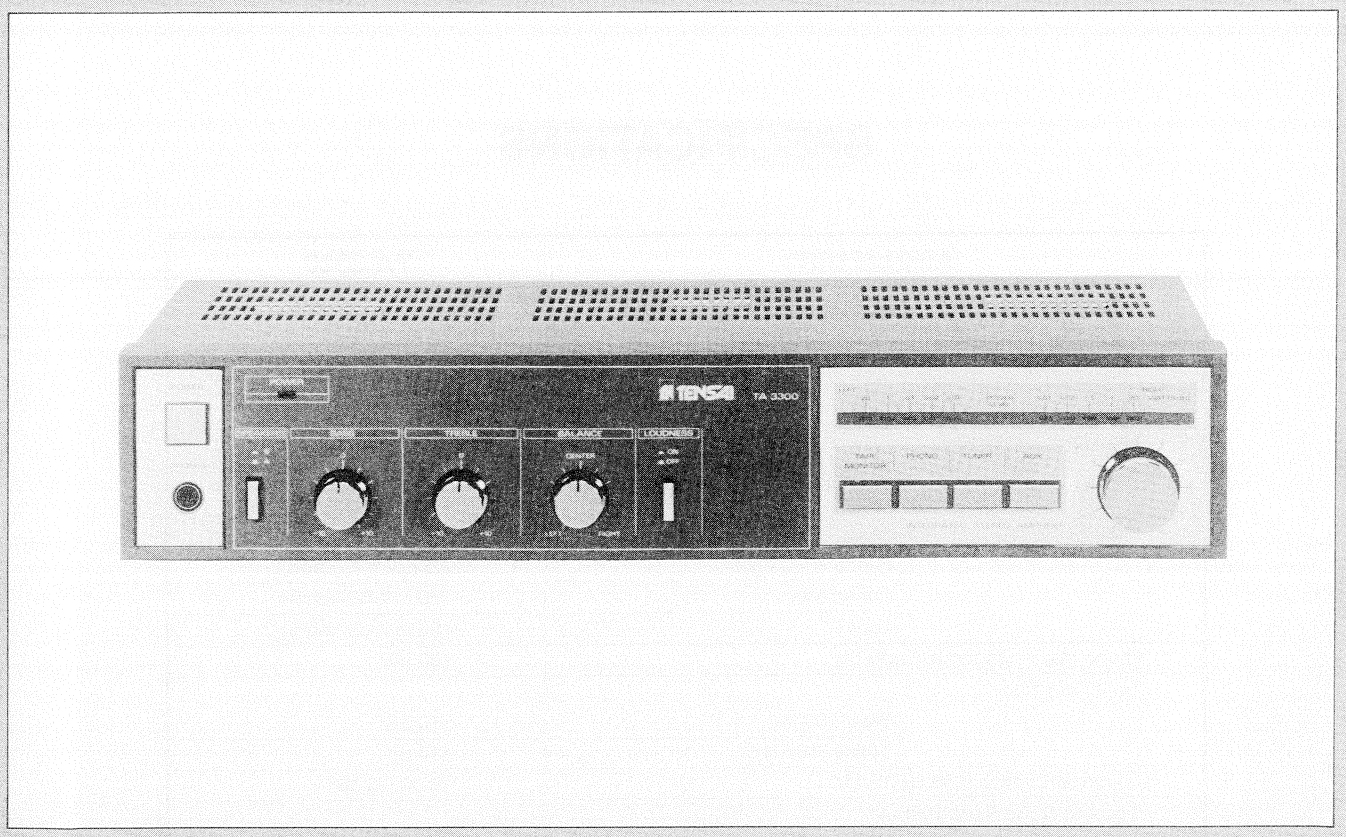
TA 3300

INTEGRATED
STEREO AMPLIFIER

TENSAI
INTERNATIONAL



Service Manual

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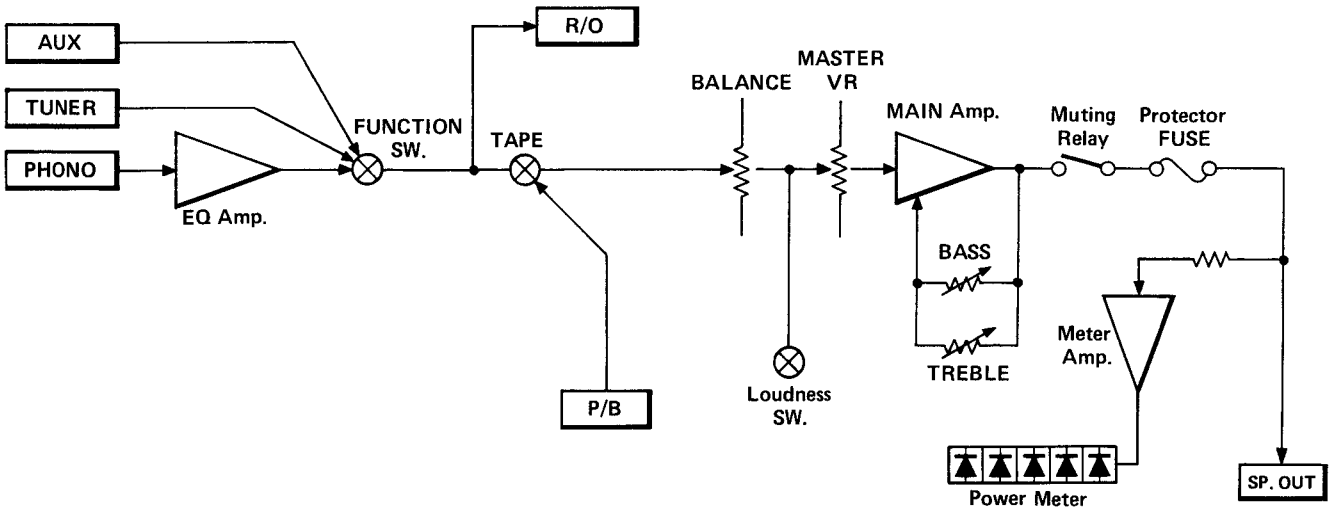
SPECIFICATIONS

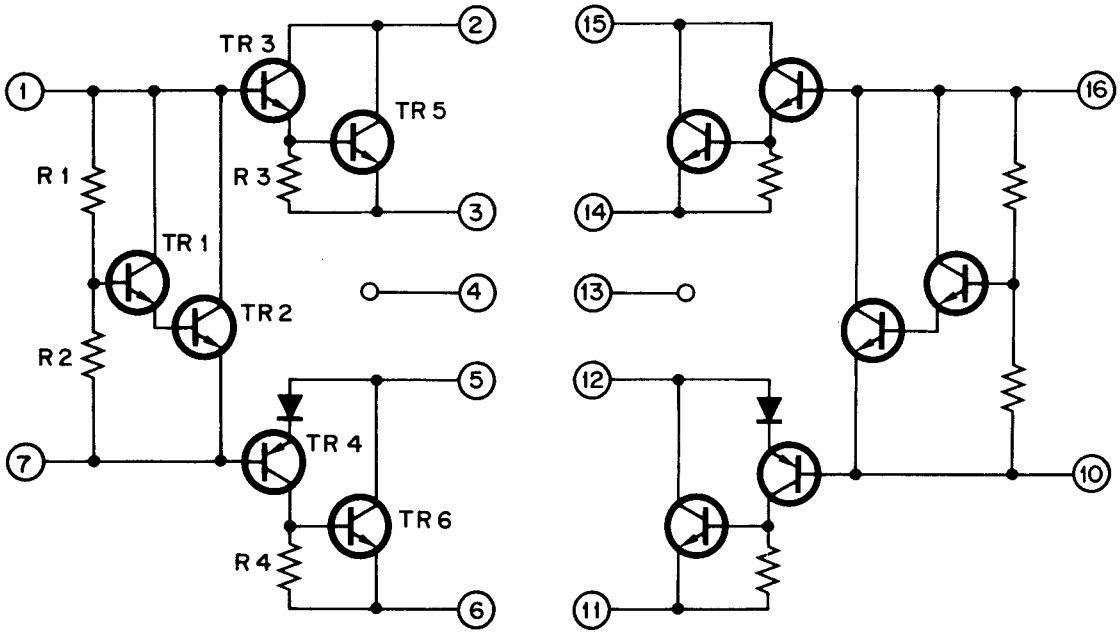
AMPLIFIER		TA 3300
POWER AMPLIFIER SECTION		
Power Output		24 W per channel at 8 ohms
Total Harmonic Distortion		0.5 %
PREAMPLIFIER SECTION		
Frequency Response		
	Phono (RIAA)	±0.5 dB
	Aux	10 Hz – 40 kHz
Input Sensitivity and Impedance		
	Phono	2.5 mV/47 kohms
	Tuner/Aux	150 mV/60 kohms
	Tape	150 mV/60 kohms
Phono Maximum Input Capability		160 mV
Tone Controls		
	Bass (100 Hz)	±10 dB
	Treble (10 kHz)	±10 dB
Loudness Control (100 Hz/10 kHz)		+8 dB/+5 dB
Signal-to-Noise Ratio (IHF-A)		
	Phono	72 dB
	Tuner/Aux	90 dB
	Tape	90 dB
GENERAL		
Power Supply		AC 220 V, 50 Hz
Dimensions (W x H x D)		400 x 75 x 207 mm (approx.)
Weight (approx.)		3.8 kg

Our policy is one of continuous development of our products and we may change specifications without notice.

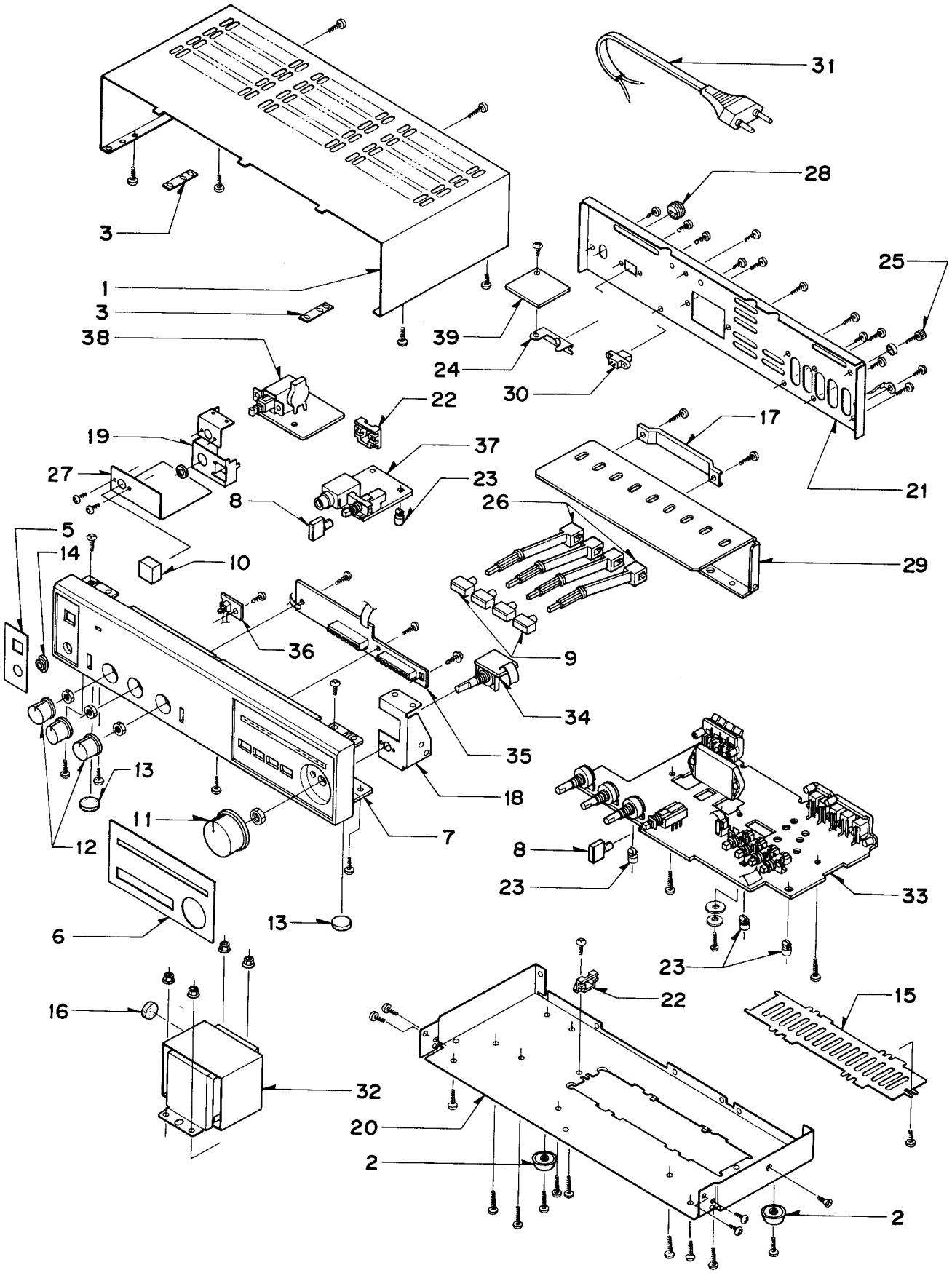
FUNCTIONAL BLOCK DIAGRAM



POWER AMP IC STK-2025 EQUIVALENT CIRCUIT



EXPLODED VIEW OF CABINET AND CHASSIS



PARTS LIST

PACKING PARTS LIST

Ref. No.	Parts Number	Description
	131 6 1169 03117	Box corrugate-EXP
	131 6 2119 02131	Bag Polyethylene-EXP
	131 6 3009 33470	Pad (Top)
	131 6 3009 33950	Pad (Left)
	131 6 3009 33960	Pad (Right)
	131 6 3069 16840	Patching Sheet

ACCESSORIES PARTS LIST

Ref. No.	Parts Number	Description
	131 6 2719 10600	Bag Fan
	131 6 4169 00309	Explanatory Booklet
	131 6 4519 16800	Guarantee Certificate

CABINET PARTS LIST

Ref. No.	Parts Number	Description
1	131 2 1410 27402	Cover
2	131 2 1801 12900	Leg
3	131 2 4208 40000	Spacer

APPEARANCE PARTS LIST

Ref. No.	Parts List	Description
5	131 2 1203 58701	Panel Control
6	131 2 1203 58801	Panel Control Amp
7	131 2 1203 58900	Panel Control
8	131 2 1601 69300	Knob (Loudness, Speaker)
9	131 2 1601 71602	Knob (Function)
10	131 2 1601 83700	Knob (Power)
11	131 2 1601 87100	Knob (Main VR)
12	131 2 1601 87200	Knob (Bass, Treble, Balance)
13	131 2 1801 16200	Leg
14	131 2 6113 37900	Shelter

CHASSIS PARTS LIST

Ref. No.		Parts Number	Description
15		131 2 1410 27600	Cover
16		131 2 1801 13900	Leg
17	*	131 2 3101 71300	Metal Mount (IC)
18	*	131 2 3101 82901	Metal Mount
19	*	131 2 3101 90900	Metal Mount
20	*	131 2 3301 28900	Chassis
21	*	131 2 3306 35320	Panel Rear
22	*	131 2 3614 18700	Mount P.C.B. (Side)
23	*	131 2 3614 22900	Mount P.C.B. (Main)
24	*	131 2 3614 24400	Mount P.C.B. (Fuse)
25		131 2 4201 17800	Screw (GND)
26		131 2 4219 15900	Shaft (Function Switch)
27		131 2 6107 30000	Plate Sever (Power Switch)
28		131 2 6111 14200	Bushing (Line Cord)
29		131 2 6201 30500	Plate Heat Sink

ELECTRICAL PARTS LIST

Ref. No.		Parts List	Description
30	⚠	4 2359 74031	2P Socket
31	⚠	4 2432 00140	Line Cord
32	⚠	4 2512 17724	Power Transformer
33		131 0 4001 09117	Pre Main P.C.B. Assy
34		131 0 4001 09120	Volume P.C.B. Assy
35		131 0 4001 09135	Power Meter P.C.B. Assy
36		131 0 4001 09143	Power Ind. P.C.B. Assy
37		131 0 4001 09153	Speaker Select P.C.B. Assy
38		131 0 4001 09167	Power Switch P.C.B. Assy
39		131 0 4001 09171	Fuse P.C.B. Assy

*—Not a service part.

PRODUCT SAFETY NOTICE

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN A COMPONENT REPLACEMENT IS MADE IN ANY AREA OF AN UNIT. COMPONENTS INDICATED BY A MARK ⚠ IN THIS PARTS LIST AND THE SCHEMATIC DIAGRAM SHOW COMPONENTS WHOSE VALUE HAS SPECIAL SIGNIFICANCE TO PRODUCT SAFETY. IT IS PARTICULARLY RECOMMENDED THAT ONLY PARTS SPECIFIED ON THE FOLLOWING PARTS LIST BE USED FOR COMPONENT REPLACEMENT POINTED OUT BY THE MARK.

PARTS LIST (Continued)

RE MAIN P.C.B. Assy
31 0 4001 09117

Ref. No.	Parts List	Description
	4 2222 02410	VR 500k-G (Balance)
	4 2312 03311	Switch Push 4 key (Function)
	4 2312 03331	Switch Push 1 key (Loudness)
⚠	4 2322 00160	Relay
⚠	4 2349 20250	Fuse T 2.0 A (Speaker, Line)
	4 2352 00200	Fuse Clip
	4 2352 01020	Jack 6P
	4 2352 01220	Pin Jack 4P
	4 2362 00360	Plug 4P
	4 2372 01070	Terminal 8P (Speaker)
	4 2222 02420	VR 100k-Cx2 (Bass)
	4 2222 02420	VR 100k-Cx2 (Treble)
01,02	4 2532 00350	RF Coil

CAPACITORS

03,04	C1HCZK221BPA	Ceramic	220 pF 50V ±10%
05,06	C1ERY-475APA	Electrolytic	4.7 μF 25V
07,08	C1HCZK221BPA	Ceramic	220 pF 50V ±10%
09,10	C0JRY-476APA	Electrolytic	47 μF 6.3V
13,14	C1HFYK183APA	Mylar	0.018 μF 50V ±10%
15,16	C1HFYK472APA	Mylar	0.0047 μF 50V ±10%
17,18	C1HRY-105APA	Electrolytic	1 μF 50V
23,24			
27,28	C1HCZK471BPA	Ceramic	470 pF 50V ±10%
29,30	C1HFYK183APA	Mylar	0.018 μF 50V ±10%
45,46	C1HCZK221BPA	Ceramic	220 pF 50V ±10%
47,48	C1HRY-105APA	Electrolytic	1 μF 50V
49	C1HCYK221APA	Ceramic	220 pF 50V ±10%
50	C1HCDK221SL	Ceramic	220 pF 50V ±10%
51,52	C1HCYK221APA	Ceramic	220 pF 50V ±10%
55,56	C0JRY-107APA	Electrolytic	100 μF 6.3V
59,60	C1HCZM1R8SPA	Ceramic	1.8 pF 50V ±20%
61,62	C1HCZJ100SPA	Ceramic	10 pF 50V ±5%
63,64	C1ERY-106APA	Electrolytic	10 μF 25V
65,66	C1VRE-107A	Electrolytic	100 μF 35V
67	C1VRY-476APA	Electrolytic	47 μF 35V
68	C1VRE-476A	Electrolytic	47 μF 35V
69,70	C1HFYK473APA	Mylar	0.047 μF 50V ±10%
71,72	C1ERY-106APA	Electrolytic	10 μF 25V
73,74			
75	C1HFYK333APA	Mylar	0.033 μF 50V ±10%
76	C1HFRK333A	Mylar	0.033 μF 50V ±10%
77,78	C1HCZN222XPA	Ceramic	0.0022 μF 50V ±30%
79,80	C1HFRJ224ML	Mylar	0.22 μF 50V ±5%
81,82	C1HFYK273APA	Mylar	0.027 μF 50V ±10%
83,84	C1HRY-105APA	Electrolytic	1 μF 50V
87,88	C2AFRM224BS	Mylar	0.22 μF 100V ±20%
89,90			
91,92	C1GRK-338A	Electrolytic	3300 μF 40V
93,94	C1ERE-107A	Electrolytic	100 μF 25V
96	C1ERE-477A	Electrolytic	470 μF 25V
97	C0JRY-107APA	Electrolytic	100 μF 6.3V
98,99	C1HYYZ473APA	Ceramic	0.047 μF 50V +80,–20%
103,104	C2AFRM224BS	Mylar	0.22 μF 100V ±20%
105	C1VRE-228A	Electrolytic	2200 μF 35V
106,107	C2AFRM224BS	Mylar	0.22 μF 100V ±20%

Ref. No.	Parts Number	Description
	SEMICONDUCTORS	
D03,04 05,06	205 5 9040 44210	Diode, DS-442
D07,08	202 5 3210 18020	Zener Diode, GZA18U
D09	202 5 2570 02015	Diode, DBA20C-K15
D10,11	202 5 3210 16020	Zener Diode, GZA16U
D13	202 5 2470 13540	Diode, DS135D
D14	202 5 4620 01010	Diode, DBA10C
IC01	IJJ-NJM4558DX	IC, NJM4558D
IC03	206 5 4302 02510	IC, STK2025 (Power IC)
Q01,02	TMM-2SC1583-F	TR 2SC1583 F, G
Q09,10	203 5 4551 01615	TR 2SA1016 F, G
Q11,12	203 5 4532 36260	TR 2SC2362 F, G
Q13,14	203 5 5000 53660	TR 2SC536 F, G

RESISTORS

R01,02	R2EDZJ152APA	Carbon	1.5k	1/4W	±5%
R03,04	R2EDZJ124APA	Carbon	120k	1/4W	±5%
R05,06	R2EDZJ104APA	Carbon	100k	1/4W	±5%
R07,08	R2EDZJ271APA	Carbon	270	1/4W	±5%
R09,10	R2EDZJ224APA	Carbon	220k	1/4W	±5%
R11,12	R2EDZJ153APA	Carbon	15k	1/4W	±5%
R13,14	R2EDZJ104APA	Carbon	100k	1/4W	±5%
R15,16	R2EDZJ222APA	Carbon	2.2k	1/4W	±5%
R17,18	R2EDZJ562APA	Carbon	5.6k	1/4W	±5%
R19,20	R2EDZJ153APA	Carbon	15k	1/4W	±5%
R35,36	R2EDZJ562APA	Carbon	5.6k	1/4W	±5%
R37,38	R2EDZJ154APA	Carbon	150k	1/4W	±5%
R39,40	R2EDZJ153APA	Carbon	15k	1/4W	±5%
R45,46	R2EDZJ182APA	Carbon	1.8k	1/4W	±5%
R49,50	R2EDZJ821APA	Carbon	820	1/4W	±5%
R51,52	R2EDZJ683APA	Carbon	68k	1/4W	±5%
R53,54	R2EDZJ223APA	Carbon	22k	1/4W	±5%
R55,56	R2EDZJ101APA	Carbon	100	1/4W	±5%
R59,60	R2EDZJ100APA	Carbon	10	1/4W	±5%
R61,62	R2EDZJ152APA	Carbon	1.5k	1/4W	±5%
R63,64	R2EZPK101A	Fuse	100	1/4W	±10%
R65,66	R2EZPK820A	Fuse	82	1/4W	±10%
R67,68	R2HXBJ100A	Oxide Metal Film	10	1/2W	±5%
R69,70	R2EDZJ392APA	Carbon	3.9k	1/4W	±5%
R71,72	R2EDZJ472APA	Carbon	4.7k	1/4W	±5%
R73,74	R2EDZJ561APA	Carbon	560	1/4W	±5%
R75,76	R2EDZJ122APA	Carbon	1.2k	1/4W	±5%
R77,78	R2EDZJ103APA	Carbon	10k	1/4W	±5%
R79,80	R2EDZJ823APA	Carbon	82k	1/4W	±5%
R81,82	R2EDZJ182APA	Carbon	1.8k	1/4W	±5%
R83,84	R2EDBJ4R7A	Carbon	4.7	1/4W	±5%
R85,86	R2EDZJ103APA	Carbon	10k	1/4W	±5%
R87,88	R2HXBJ122A	Oxide Metal Film	1.2k	1/2W	±5%
R89	R2EDZJ154APA	Carbon	150k	1/4W	±5%
R90	R2EDZJ333APA	Carbon	33k	1/4W	±5%
R91	R2EZPK100A	Fuse	10	1/4W	±10%
R93	R2EDBJ2R2A	Carbon	2.2	1/4W	±5%

PARTS LIST (Continued)

VOLUME P.C.B. Assy
131 0 4001 09120

Ref. No.	Parts Number	Description
	4 2222 02400	VR 100k-Bx2

POWER METER P.C.B. Assy
131 0 4001 09135

Ref. No.	Parts Number	Description
	131 2 6110 31600	Shelter Light
	131 0 4006 22277	Cord Assy
	CAPACITORS	
C01,02	C1HRE-105A	Electrolytic 1.0 μF 50V
C03,04	C1ERE-106A	Electrolytic 10 μF 25V
C05	C1ERE-107A	Electrolytic 100 μF 25V
	SEMICONDUCTORS	
D01,02 03,04	205 5 9040 44210	Diode, DS-442
D05,06 07,08 09,10 11,12 13,14	DWW-LN324GP	Diode, LN324GP
IC01,02	IYY-BA6124	IC, BA6124
	RESISTORS	
R03,04	R2EDZJ121APA	Carbon 120 1/4W ±5%
R05,06	R2EDZJ103APA	Carbon 10k 1/4W ±5%
R07	R2EDZJ102APA	Carbon 1k 1/4W ±5%
R09,10	R2EDPJ682A	Carbon 6.8k 1/4W ±5%
R11,12	R2EDPJ272A	Carbon 2.7k 1/4W ±5%

POWER IND. P.C.B. Assy
131 0 4001 09143

Ref. No.	Parts Number	Description
	131 2 4208 31400	Spacer
D01	DWW-LN224RP	L.E.D., LN224RP (Red)

SPEAKER SELECT P.C.B. Assy
131 0 4001 09153

Ref. No.	Parts Number	Description
	4 2312 05910	Switch Push 1 Key
	4 2352 01790	Jack 7P
	RESISTORS	
R01,02	R3AXBJ331A	Oxide Metal Film 330 1W ±5%

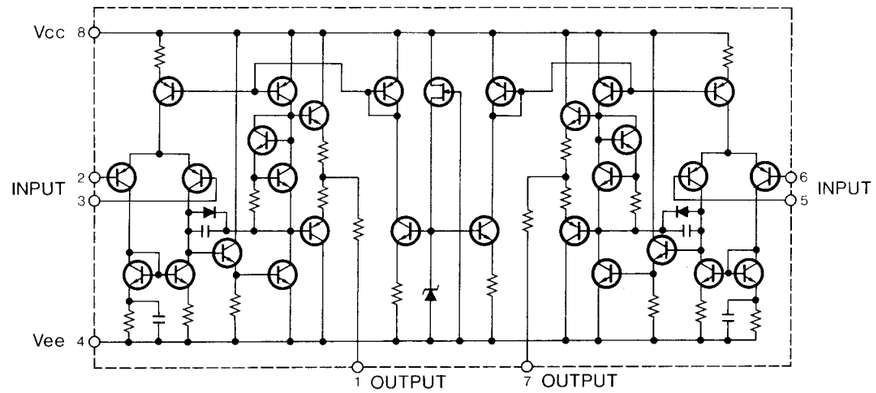
POWER SWITCH P.C.B. Assy
131 0 4001 09167

Ref. No.	Parts Number	Description
⚠	4 2312 05060	Switch Push Power
	CAPACITOR	
C01 ⚠	C2GYDP103A-S	Ceramic 0.01 μF 400V +100,–0%

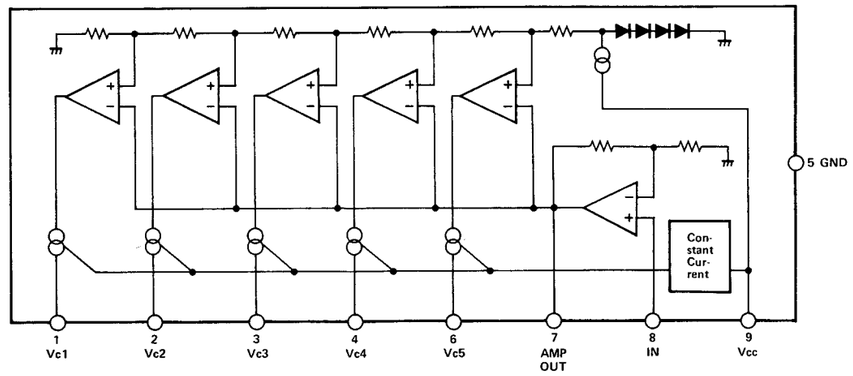
FUSE P.C.B. Assy
131 0 4001 09172

Ref. No.	Parts Number	Description
⚠	4 2349 20570	Fuse T 2.5 A
⚠	4 2349 21540	Fuse T 800 mA
	4 2352 00200	Fuse Clip

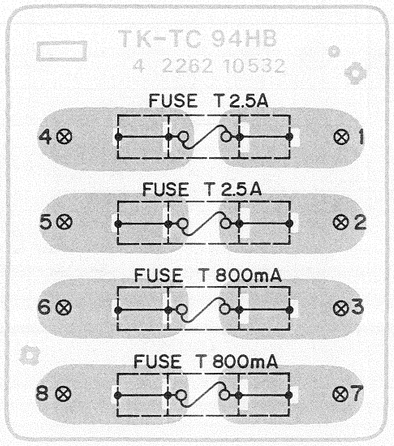
PHONO EQ AMP IC NJM4558D EQUIVALENT CIRCUIT



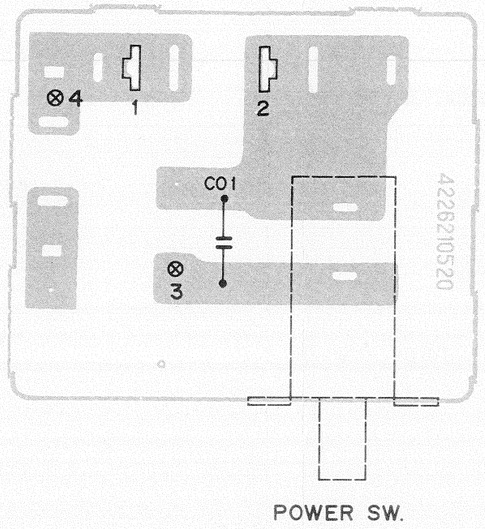
LEVEL METER IC BA6124 SIGNAL FLOW



FUSE P.C.BOARD
(BOTTOM VIEW)

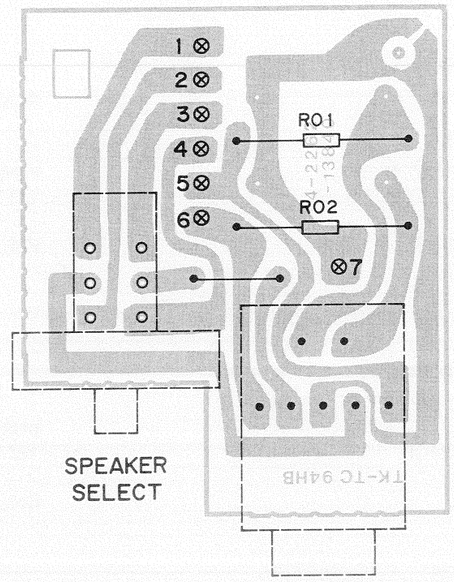


POWER SWITCH P.C.BOARD
(BOTTOM VIEW)

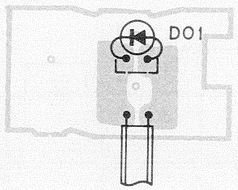


POWER SW.

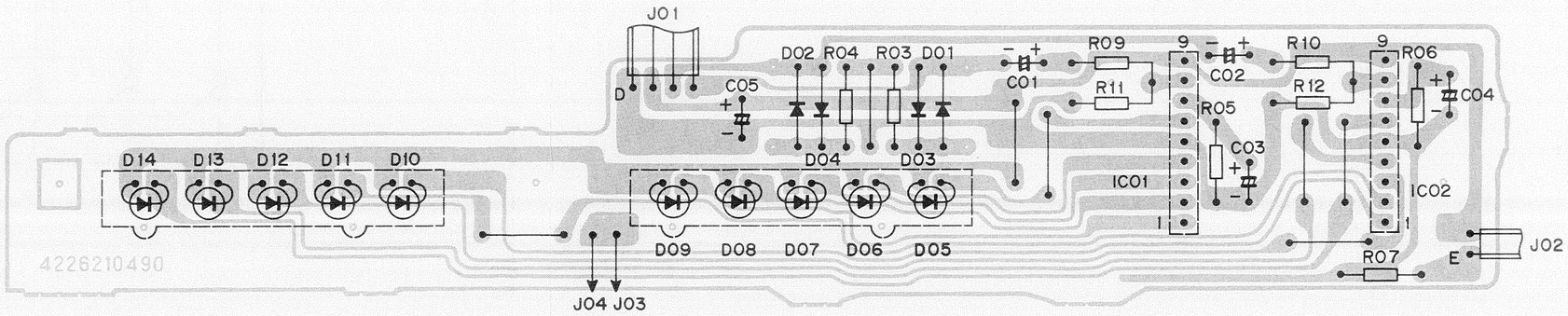
SPEAKER SELECTOR P.C.BOARD
(BOTTOM VIEW)



POWER IND. P.C.BOARD
(BOTTOM VIEW)

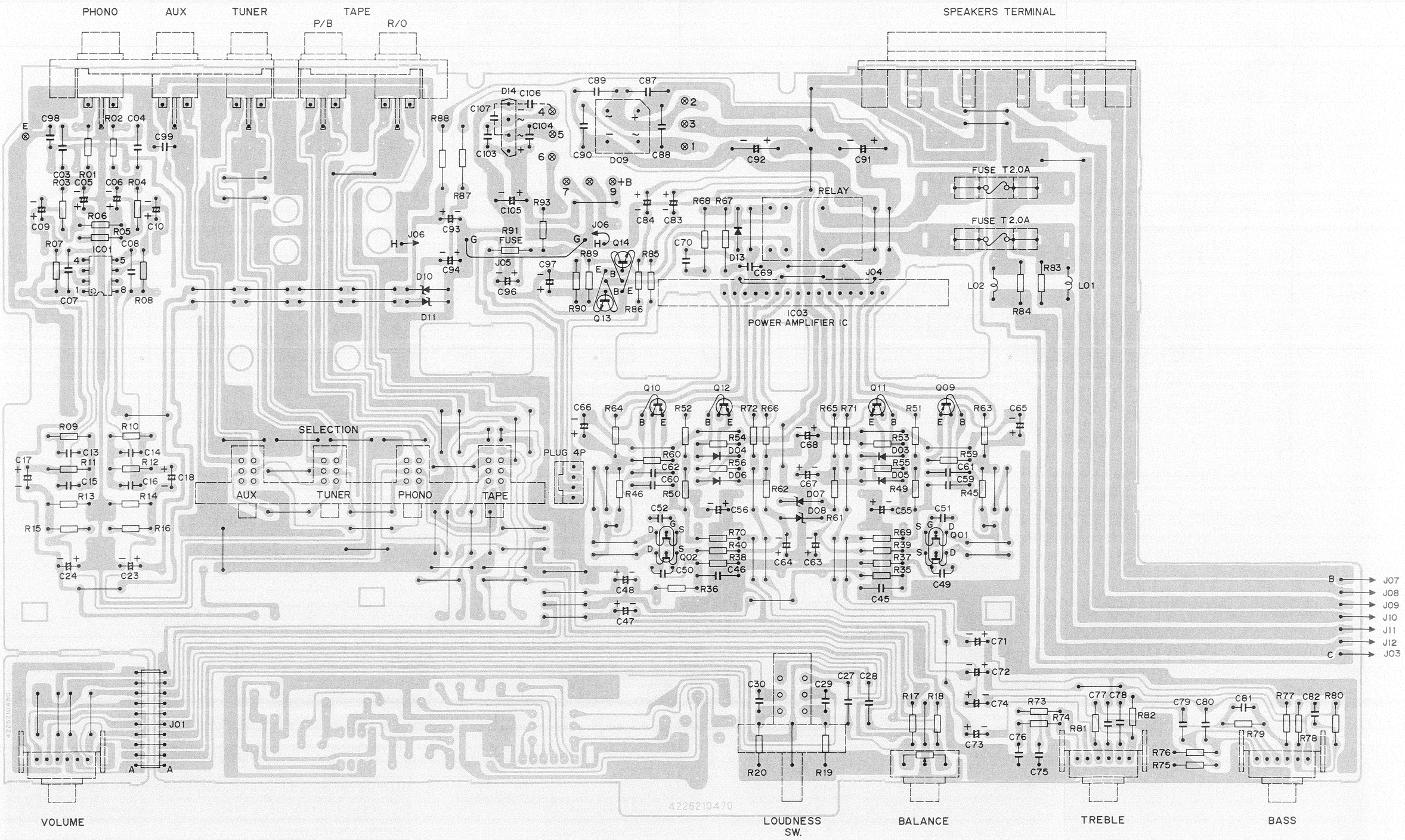


POWER METER P.C.BOARD
(BOTTOM VIEW)

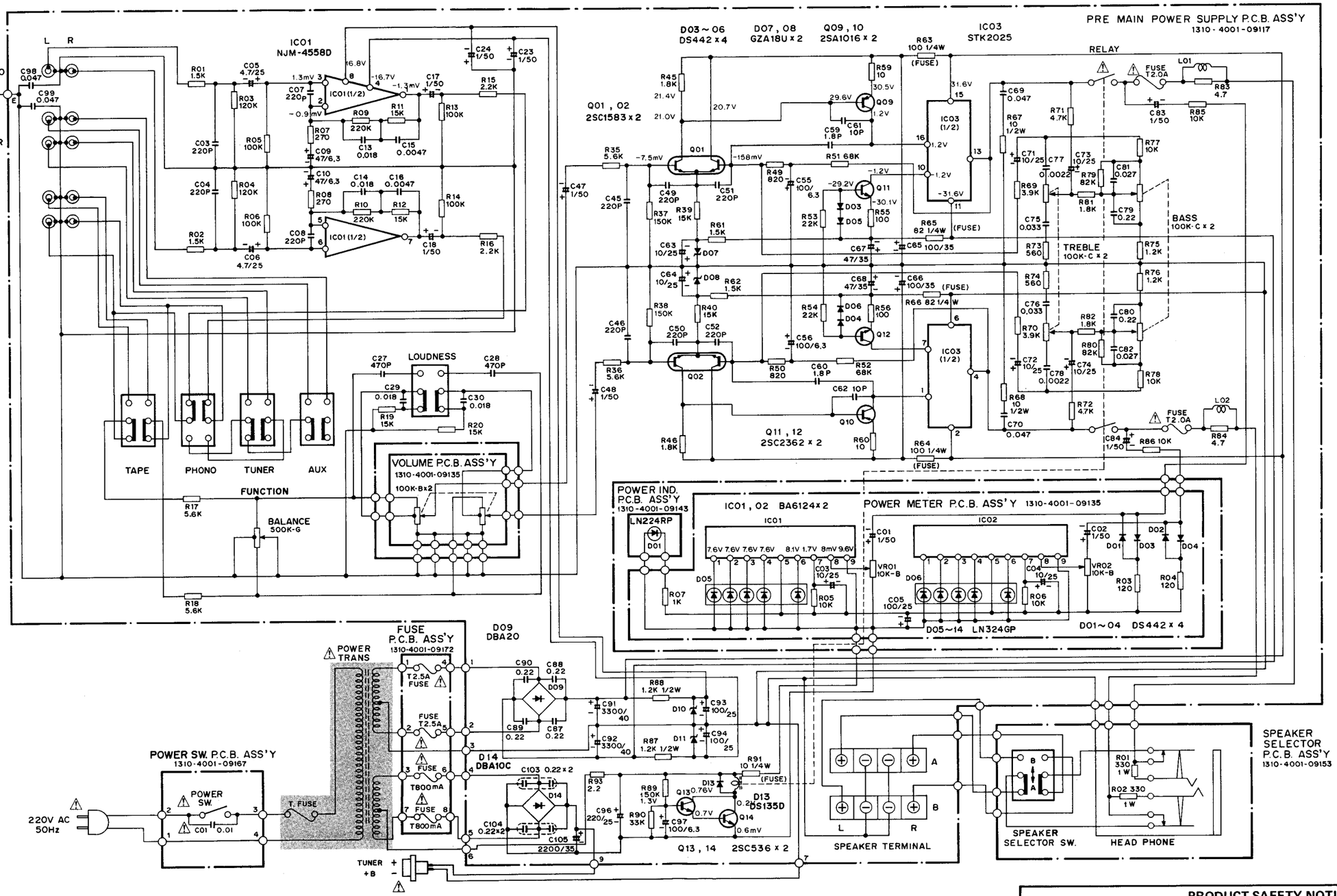


PRE MAIN AMP PRINTED CIRCUIT BOARD

(BOTTOM VIEW)



SCHEMATIC DIAGRAM



NOTES:

1. All resistors values are indicated in "ohm" (K=10^3, M=10^6).
2. All capacitors values are indicated in "μF" (P=10^{-12}).
3. All voltages indicated on the schematics are measured under the following conditions.
   a. Use a V.T.V.M.
   b. All voltages ±10% with respect to chassis ground
   c. No signals at input terminals
   d. AC input at 220 volts 50 Hz
4. This is a basic schematic diagram.

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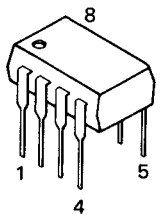
SEMICONDUCTOR LEAD IDENTIFICATION

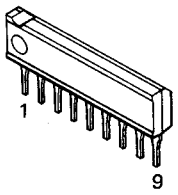
INTEGRATED CIRCUITS

DC AMP IC



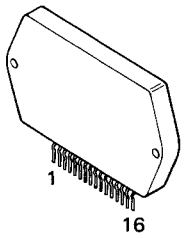
- NJM4558DX

LEVEL METER IC



- BA6124

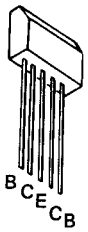
POWER AMPLIFIER IC



- STK2025

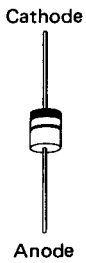
TRANSISTORS

- 2SC536
- 2SC2362
- 2SA1016



- 2SC1583

DIODES



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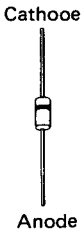

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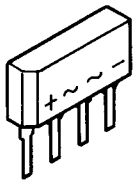
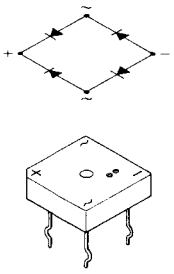
- GZA16U
- GZA18U



- DBA10C



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